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Goddard Space Flight Center

Inside Wallops

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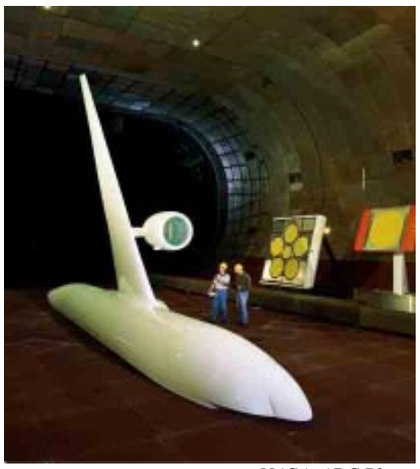
NASA Comes to the Aid of Aircraft-Noise Sufferers

Residents of communities near airports may someday breathe an audible sigh of relief as a result of NASA tests using one of the world's largest wind tunnels to evaluate a variety of 'quiet' aircraft technologies.

Aircraft are at their 'loudest' when landing gear, wing flaps and slats are deployed, creating large amounts of wind turbulence and generating lots of noise.

Engineers at NASA Ames Research Center with support from NASA Langley Research Center will use Ames' 40 x 80-foot (12.2 x 24.4-meter) subsonic wind tunnel to test design modifications that reduce aircraft noise on a 26 percent-scale model of a Boeing 777 aircraft.



NASA ARC Photo

Boeing 777 model mounted vertically in NASA Ames Research Center wind tunnel.

"This wind tunnel test is the culmination of eight years of work to make aircraft quieter during the time when the most noise is produced — take-off and landing. This is the first time that all of these noise-control devices will be tested together. Each device works separately, but this test will determine how well they work together," said engineering lead Kevin James of Ames.

"These technologies, developed by NASA and an industry airframe-noise reduction team, will revolutionize the design of future generations of commercial aircraft. Communities will experience less noise, and their citizens' quality of life will be improved, with the implementation of the advanced technologies to be demonstrated in this critical experiment," said Bill Willshire, noise reduction program manager at Langley.

The research to develop quieter aircraft is funded under the Aerospace Vehicle System Technology Noise Reduction Program managed by Langley.

The Subsonic Transport Acoustic Research (STAR) model consists of the left half of the aircraft. It will be mounted with the wing vertical in the test section.

The model is complete with a wing, landing gear, leading-edge slats and flaps that are fully extended to duplicate take-off or landing conditions.

"This is one of the most detailed wind tunnel models of a commercial aircraft ever tested. The model has all the control surfaces and parts of the real aircraft. It has a semi-wingspan of 26 feet (7.25 meters) and is built to a tolerance of 0.030 of an inch (.0762 centimeters)," said James. "The Boeing 777 was picked for the development of these quiet modifications because it is already a relatively quiet aircraft. We wanted the challenge of making it even quieter," he added.

To determine noise levels, the test will use one large, fixed acoustic-sensor array and one mobile acoustic (or "microphone") array that can cover the entire length of the model.

Acoustic arrays enable engineers to measure the noise generated from small portions of the model. With the microphone array, noise generated from the flap edge can be separated from noise generated from the slat. The benefit of the microphone array is very much like that of a microscope, allowing researchers to look at individual noise-generating parts.

The model is also heavily loaded with sensors that monitor wind-speed, turbulence and pressure.

William Hargrove Earns Ph.D.

Kennedy - Western University has awarded William Hargrove, the degree of Doctor of Philosophy, in Safety Engineering following the completion of all required course work and the approval of his dissertation.

Hargrove has been the site supervisor for Mantech International Corporation at Wallops Flight Facility for the past 13 years and manages the Lifting Device and Pressure Systems Recertification Programs.

Kodiak Star Scheduled for Launch from Alaska September 17

NASA Wallops Flight Facility is providing vital range safety, radar tracking and telemetry support to the first orbital launch from the newly established launch site at Kodiak Island, Alaska.

Wallops equipment and more than 30 personnel will be located on Kodiak Island and at the town of Cordova on the Alaskan mainland just north of Kodiak Island.

Pat Ladner, Executive Director of the Alaska Aerospace Development Corporation (AADC), said "The Wallops range safety support has a reputation for being second to none. AADC is proud to have Wallops supporting the first orbital launch from the Kodiak Launch Complex."

The launch of Kodiak Star aboard a Lockheed Martin Athena I launch vehicle from Alaska's Kodiak Launch Complex is scheduled for Monday, Sept. 17 at the opening of a launch window that extends from 5 - 7 p.m. ADT (9 -11 p.m. EDT).

This will be the first mission to be launched into an Earth orbit from Kodiak Island. Riding atop the Athena I, the Kodiak Star payload consists of four individual satellites.

Additional information on the Kodiak launch can be found at:
http://www-pao.ksc.nasa.gov/kscpao/nasafact/pdf/kodiakstar.pdf

A prelaunch press conference from the Kodiak Launch Complex will be carried live on NASA Television beginning at 5:30 pm EDT, Sunday Sept. 16.

Launch day live coverage will begin at 7:30 p.m. EDT, Monday, Sept. 17 and continue until it has been confirmed that Kodiak Star's four satellites have been deployed.

The final deployment confirmation, that of Starshine, is expected to be communicated from Antarctica approximately 2 hours, 10 minutes after launch.

Various web sites will be carrying NASA TV programming. The following web site will direct you to these locations.
http://www.nasa.gov/ntv/ntvweb.html

Beach Cleanup on Wallops Island

It's that time of year for the Annual Beach Cleanup as part of the U.S. Coastal Cleanup. We meet at the Wallops Island gate at 8:30 a.m. on Saturday, September 15, and proceed to the north end of the island.

During last year's cleanup, 27 volunteers collected 16 bags of trash for a total weight of 1,300 pounds from the 2-mile stretch of beach north of the "dune crossover". Material collected is classified and tabulated. This information goes to the Center for Marine Conservation, which monitors the health of the U.S. coastline.

If you are interested in participating, call the Public Affairs Office at x1579 or email McKeva.W.Scarborough.1@gsfc.nasa.gov by September 13. The activity takes about 2 hours.

School Bus Safety

For some 23 million students nationwide, the school day begins and ends with a trip on a school bus. Unfortunately, each year many youngsters are injured and several are killed in school incidents.

School bus related crashes killed 128 persons and injured an estimated 19,000 persons nationwide in 1997, according to data from the National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS) and General Estimates System (GES).

Over the past six years, about 66% of the deaths in fatal school bus related crashes were occupants of vehicles other than the school bus and 24% were pedestrians. About 76% were struck by the school bus.

Although drivers of all vehicles are required to stop for a school bus when it is stopped to load or discharge passengers, children should not rely on them to do so. The National Safety Council encourages parents to teach their youngsters these rules for getting on and off the school bus.

- When waiting for the bus, stay away from traffic and avoid roughhousing or other behavior that can lead to carelessness. Do not stray onto streets, alleys, or private property.

- Line up away from the street or road as the school bus approaches. Wait until the bus has stopped and the door opens before stepping into the roadway.

- Use the handrail when getting off the bus and stepping onto the roadway.

For more school bus safety, go to: http://www.gsfc.nasa.gov/goddardnews/thisweek/safe.html

Pig Pickin'

September 28
5 p.m. at the Pavilion

Pork, baked beans, cole slaw, rolls and fruit dessert

Tickets are available at the Exchange Store, x2020, and at the Rocket Club, x1454.

August was Hot and Muggy

by Bob Steiner, Meteorologist

After very comfortable temperatures in July, hot and humid nights arrived in August. Daytime temperatures were generally cooler than is normal but nighttime temperatures were decidedly warmer than normal.

The highest temperature recorded during the month was 93° F and was reached on August 8 and 9. The coolest temperature recorded was 57° F on August 1. No record temperatures were set or tied for the month. Temperatures during August averaged 76.4° F, which is 1° warmer than average.

The total rainfall for August, 2.79 inches, was 0.94 inches below normal for the month. Measurable rainfall fell on 11 days, three more than normal. The greatest amount of rain in a 24-hour period, 1.03 inches, fell on August 12 and 13.

Summer has passed, children are back in school and October will be here before we know it. We can look forward to the fall's many colors, sunshine and comfortable temperatures. We should experience daily high temperatures nearing 73° F at the beginning of the month, cooling by 10° F by the end of the month. Overnight lows will start out at about 55° F, falling to nearly 46° F by the end of October. The record high temperature for October is 89° F, which occurred on Oct. 1 and 4, 1986 and again on Oct. 6, 1997. The record low, 26° F, occurred on Oct. 28, 1976.

We usually receive measurable precipitation on seven days during October with an average of 2.87 inches for the month.

Get out and enjoy nature before winter sets in, but keep in mind there are still two months left in the official hurricane season.

Leading From the Inside-Out

September 27-28
8:30 a.m. - 4:30 p.m.
Chincoteague Community Center

This center-funded workshop focuses on empowering authentic leadership qualities for those in any level of the organization who seek to lead themselves or others in contributions that make a difference.

Any GSFC employee interested in developing his/her leadership skills should attend this workshop.

To register, call Nichole Richmond, x66-5757 and fax a completed GSFC Request for Training Form to x66-1679. An electronic version is at: http://ohr.gsfc.nasa.gov/Forms/GSFC/home.htm.

The Tickets Go To.....

Frank Lau, Sounding Rockets Program Office, was the winner of four tickets to the Maryland Renaissance Festival. The Wallops Exchange and Morale Association sponsored the drawing held August 31.

World Middleweight Boxing Match

on the Big Screen in the Rocket Club

Felix Trinidad
vs
Bernard Hopkins

September 15, 2001
Doors Open at 8 p.m.

Admission: $2.00 per person

For Sale

Federal era farmhouse. Unspoiled historic home in Temperanceville with full-length front and back porches. Eight rooms on one acre. $85,000. Call (703) 288-3271.

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